

We claim:

1. A hard surface cleaning concentrate composition comprising:
  - a) from about 0.05 to about 10 wt% of a non-cationic antimicrobial agent;
  - b) from about 1 to about 20 wt% of a water soluble organic solvent;
  - c) from about 1 to about 20 wt% of an anionic soap surfactant;
  - d) from about 1 to about 15 wt% of an hydrocarbon diluent;
  - e) from about 0.001 to about 20 wt% of pine oil which is at least 60% terpene alcohols;
  - f) optionally, from about 0 to about 10 wt% of optional materials selected from dyes, colorants, pH stabilizers and buffers, non-ionic surfactants, fragrance/fragrance enhancers, viscosity modifiers, insect repellants, and light stabilizers; and
  - g) the balance being water.
- 15 2. The cleaning concentrate of claim 1 wherein the non-cationic antimicrobial agent is selected from pyrithiones, dimethyldimethylol hydantoin, methylchloroisothiazolinone/methylisothiazolinone sodium sulfite, sodium bisulfite, imidazolidinyl urea, diazolidinyl urea, benzyl alcohol, 2-bromo-2-nitropropane-1,3-diol, formalin (formaldehyde), iodopropenyl butylcarbamate, chloroacetamide, methanamine, methyldibromonitrile glutaronitrile, glutaraldehyde, 5-bromo-5-nitro-1,3-dioxane, phenethyl alcohol, o-phenylphenol/sodium o-phenylphenol, sodium hydroxymethylglycinate, polymethoxy bicyclic oxazolidine, dimethoxane, thimersal dichlorobenzyl alcohol, captan, chlorphenenesin, dichlorophene, chlorbutanol, glyceryl laurate, halogenated diphenyl ethers, phenolic compounds, mono- and poly-alkyl and aromatic halophenols, resorcinol and its derivatives, bisphenolic compounds, benzoic esters (parabens), halogenated carbanilides, 3-trifluoromethyl-4,4'-dichlorocarbanilide, and 3,3',4-trichlorocarbanilide.
- 30 3. The cleaning concentrate of claim 2 wherein the non-cationic antimicrobial agent is a mono- and poly-alkyl and aromatic halophenol selected from the group p-

chlorophenol, methyl p-chlorophenol, ethyl p-chlorophenol, n-propyl p-chlorophenol,  
n-butyl p-chlorophenol, n-amyl p-chlorophenol, sec-amyl p-chlorophenol, n-hexyl p-  
chlorophenol, cyclohexyl p-chlorophenol, n-heptyl p-chlorophenol, n-octyl p-  
chlorophenol, o-chlorophenol, methyl o-chlorophenol, ethyl o-chlorophenol, n-propyl  
o-chlorophenol, n-butyl o-chlorophenol, n-amyl o-chlorophenol, tert-amyl o-  
chlorophenol, n-hexyl o-chlorophenol, n-heptyl o-chlorophenol, o-benzyl p-  
chlorophenol, o-benzyl-m-methyl p-chlorophenol, o-benzyl-m, m-dimethyl p-  
chlorophenol, o-phenylethyl p-chlorophenol, o-phenylethyl-m-methyl p-  
chlorophenol, 3-methyl p-chlorophenol; 3,5-dimethyl p-chlorophenol, 6-ethyl-3-  
methyl p-chlorophenol, 6-n-propyl-3-methyl p-chlorophenol, 6-iso-propyl-3-methyl  
p-chlorophenol, 2-ethyl-3,5-dimethyl p-chlorophenol, 6-sec-butyl-3-methyl p-  
chlorophenol, 2-iso-propyl-3,5-dimethyl p-chlorophenol, 6-diethylmethyl-3-methyl p-  
chlorophenol, 6-iso-propyl-2-ethyl-3-methyl p-chlorophenol, 2-sec-amyl-3,5-  
dimethyl p-chlorophenol 2-diethylmethyl-3,5-dimethyl p-chlorophenol, 6-sec-octyl-3-  
methyl p-chlorophenol, p-chloro-m-cresol, p-bromophenol, methyl p-bromophenol,  
ethyl p-bromophenol, n-propyl p-bromophenol, n-butyl p-bromophenol, n-amyl p-  
bromophenol, sec-amyl p-bromophenol, n-hexyl p-bromophenol, cyclohexyl p-  
bromophenol, o-bromophenol, tert-amyl o-bromophenol, n-hexyl o-bromophenol, n-  
propyl-m,m-dimethyl o-bromophenol, 2-phenyl phenol, 4-chloro-2-methyl phenol, 4-  
chloro-3-methyl phenol, 4-chloro-3,5-dimethyl phenol, 2,4-dichloro-3,5-  
dimethylphenol, 3,4,5,6-terabromo-2-methylphenol, 5-methyl-2-pentylphenol, 4-  
isopropyl-3-methylphenol, para-chloro-meta-xylenol, dichloro meta xyleneol,  
chlorothymol, and 5-chloro-2-hydroxydiphenylmethane,

- 25 4. The composition of claim 1 wherein the water soluble organic solvent is selected  
from C1-4 alcohols, glycol ethers, and mixtures thereof.
5. The composition of claim 1 wherein the anionic soap surfactant is selected from  
alkali metal soap fatty acids containing from about 8 to about 24 carbon atoms, alkali  
metal salts, ammonium salts, amine salts, aminoalcohol salts or the magnesium salts

of one or more of the following compounds: alkyl sulfates, alkyl ether sulfates, alkylamidoether sulfates, alkylaryl polyether sulfates, alkylaryl sulfates, alkylaryl sulfonates, monoglyceride sulfates, alkylsulfonates, alkylamide sulfonates, alkylarylsulfonates, olefinsulfonates, paraffin sulfonates, alkyl sulfosuccinates, alkyl ether sulfosuccinates, alkylamide sulfosuccinates, alkyl sulfosuccinamate, alkyl sulfoacetates, alkyl phosphates, alkyl ether phosphates, acyl sarcosinates, acyl isethionates, and N-acyl taurates.

5           6. The composition of claim 5 wherein the anionic soap surfactant is selected from alkali metal soap fatty acids.

10          7. The composition of claim 1 wherein the hydrocarbon diluent is an aromatic hydrocarbon diluent selected from Shellsolv AB, Aromatic 150, Aromatic 200 (naphthalene depleted), Aromatic 200, Aromatic 100, and HAN 857.

15          8. The composition of claim 1 wherein the non-cationic antimicrobial agent is present in an amount of from about 0.1 to about 5 wt%, more preferably from about 0.5 to about 5 wt%.

20          9. The composition of claim 1 wherein the water soluble organic solvent is present in an amount of from about 0.5 to about 10 wt%.

10          10. The composition of claim 1 wherein the anionic soap surfactant is present in an amount of from about 1 to about 20 wt%, more preferably from about 2 to about 15 wt%.

25          11. The composition of claim 1 wherein the hydrocarbon diluent is present in an amount of from about 0.1 to about 10 wt%, more preferably from about 0.5 to about 5 wt%.

12. The composition of claim 1 wherein the pine oil is present in an amount of from about 0.1 to about 15 wt%, more preferably from about 1 to about 10 wt%.
13. A hard surface cleaning concentrate composition comprising:
  - 5 a) from about 0.1 to about 5 wt% of a non-cationic antimicrobial agent;
  - b) from about 0.5 to about 10 wt% of a water soluble organic solvent;
  - c) from about 1 to about 20 wt% of an anionic soap surfactant;
  - d) from about 0.1 to about 10 wt% of an hydrocarbon diluent;
  - e) from about 0.1 to about 15 wt% of pine oil which is at least 60% terpene alcohols;
  - f) optionally, from about 0 to about 10 wt% of optional materials selected from dyes, colorants, pH stabilizers and buffers, non-ionic surfactants, fragrance/fragrance enhancers, viscosity modifiers, insect repellants, and light stabilizers; and
  - 10 g) the balance being water.
14. A hard surface cleaning concentrate composition comprising:
  - 15 a) from about 0.5 to about 5 wt% of a non-cationic antimicrobial agent;
  - b) from about 0.5 to about 10 wt% of a water soluble organic solvent;
  - c) from about 2 to about 15 wt% of an anionic soap surfactant;
  - d) from about 0.5 to about 5 wt% of an hydrocarbon diluent;
  - e) from about 1 to about 10 wt% of pine oil which is at least 60% terpene alcohols;
  - f) optionally, from about 0 to about 10 wt% of optional materials selected from dyes, colorants, pH stabilizers and buffers, non-ionic surfactants, fragrance/fragrance enhancers, viscosity modifiers, insect repellants, and light stabilizers; and
  - 20 g) the balance being water.
15. The cleaning concentrate of claims 1 to 14 which contain one or more insect repellants.

16. The cleaning concentrate of claim 15 wherein the amount of one or more insect repellant ranges from about 0.1 to about 5 wt%.

17. A hard surface cleaning concentrate composition comprising:

- 5      a) from about 0.05 to about 10 wt% of a non-cationic antimicrobial agent;
- b) from about 1 to about 20 wt% of a water soluble organic solvent;
- c) from about 1 to about 20 wt% of an anionic soap surfactant;
- d) from about 1 to about 15 wt% of an hydrocarbon diluent;
- e) from about 0.001 to about 20 wt% of pine oil which is at least 60% terpene
- 10     alcohols;
- f) from about 0.1 to about 5 wt% of one or more insect repellants; and
- g) the balance being water.

18. The cleaning concentrate of claim 17 wherein the non-cationic antimicrobial agent is selected from pyrithiones, dimethyldimethylol hydantoin, methylchloroisothiazolinone/methylisothiazolinone sodium sulfite, sodium bisulfite, imidazolidinyl urea, diazolidinyl urea, benzyl alcohol, 2-bromo-2-nitropropane-1,3-diol, formalin (formaldehyde), iodopropenyl butylcarbamate, chloroacetamide, methanamine, methyldibromonitrile glutaronitrile, glutaraldehyde, 5-bromo-5-nitro-1,3-dioxane, phenethyl alcohol, o-phenylphenol/sodium o-phenylphenol, sodium hydroxymethylglycinate, polymethoxy bicyclic oxazolidine, dimethoxane, thimersal dichlorobenzyl alcohol, captan, chlorphenenesin, dichlorophene, chlorbutanol, glyceryl laurate, halogenated diphenyl ethers, phenolic compounds, mono- and poly-alkyl and aromatic halophenols, resorcinol and its derivatives, bisphenolic

20     compounds, benzoic esters (parabens), halogenated carbanilides, 3-trifluoromethyl-4,4'-dichlorocarbanilide, and 3,3',4-trichlorocarbanilide.

25     19. The cleaning concentrate of claim 18 wherein the non-cationic antimicrobial agent is a mono- and poly-alkyl and aromatic halophenol selected from the group p-chlorophenol, methyl p-chlorophenol, ethyl p-chlorophenol, n-propyl p-chlorophenol,

n-butyl p-chlorophenol, n-amyl p-chlorophenol, sec-amyl p-chlorophenol, n-hexyl p-chlorophenol, cyclohexyl p-chlorophenol, n-heptyl p-chlorophenol, n-octyl p-chlorophenol, o-chlorophenol, methyl o-chlorophenol, ethyl o-chlorophenol, n-propyl o-chlorophenol, n-butyl o-chlorophenol, n-amyl o-chlorophenol, tert-amyl o-chlorophenol, n-hexyl o-chlorophenol, n-heptyl o-chlorophenol, o-benzyl p-chlorophenol, o-benzyl-m-methyl p-chlorophenol, o-benzyl-m, m-dimethyl p-chlorophenol, o-phenylethyl p-chlorophenol, o-phenylethyl-m-methyl p-chlorophenol, 3-methyl p-chlorophenol, 3,5-dimethyl p-chlorophenol, 6-ethyl-3-methyl p-chlorophenol, 6-n-propyl-3-methyl p-chlorophenol, 6-iso-propyl-3-methyl p-chlorophenol, 2-ethyl-3,5-dimethyl p-chlorophenol, 6-sec-butyl-3-methyl p-chlorophenol, 2-iso-propyl-3,5-dimethyl p-chlorophenol, 6-diethylmethyl-3-methyl p-chlorophenol, 6-iso-propyl-2-ethyl-3-methyl p-chlorophenol, 2-sec-amyl-3,5-dimethyl p-chlorophenol 2-diethylmethyl-3,5-dimethyl p-chlorophenol, 6-sec-octyl-3-methyl p-chlorophenol, p-chloro-m-cresol, p-bromophenol, methyl p-bromophenol, ethyl p-bromophenol, n-propyl p-bromophenol, n-butyl p-bromophenol, n-amyl p-bromophenol, sec-amyl p-bromophenol, n-hexyl p-bromophenol, cyclohexyl p-bromophenol, o-bromophenol, tert-amyl o-bromophenol, n-hexyl o-bromophenol, n-propyl-m,m-dimethyl o-bromophenol, 2-phenyl phenol, 4-chloro-2-methyl phenol, 4-chloro-3-methyl phenol, 4-chloro-3,5-dimethyl phenol, 2,4-dichloro-3,5-dimethylphenol, 3,4,5,6-terabromo-2-methylphenol, 5-methyl-2-pentylphenol, 4-isopropyl-3-methylphenol, para-chloro-meta-xylenol, dichloro meta xylenol, chlorothymol, and 5-chloro-2-hydroxydiphenylmethane,

20. The composition of claim 1 wherein the water soluble organic solvent is selected from C1-4 alcohols, glycol ethers, and mixtures thereof.
25. The composition of claim 17 wherein the anionic soap surfactant is selected from alkali metal soap fatty acids containing from about 8 to about 24 carbon atoms, alkali metal salts, ammonium salts, amine salts, aminoalcohol salts or the magnesium salts of one or more of the following compounds: alkyl sulfates, alkyl ether sulfates,
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alkylamidoether sulfates, alkylaryl polyether sulfates, alkylaryl sulfates, alkylarylsulfonates, monoglyceride sulfates, alkylsulfonates, alkylamide sulfonates, alkylarylsulfonates, olefinsulfonates, paraffin sulfonates, alkyl sulfosuccinates, alkyl ether sulfosuccinates; alkylamide sulfosuccinates, alkyl sulfosuccinamate, alkyl sulfoacetates, alkyl phosphates, alkyl ether phosphates, acyl sarcosinates, acyl isethionates, and N-acyl taurates.

5            22. The composition of claim 21 wherein the anionic soap surfactant is selected from alkali metal soap fatty acids.

10           23. The composition of claim 17 wherein the hydrocarbon diluent is an aromatic hydrocarbon diluent selected from Shellsolv AB, Aromatic 150, Aromatic 200 (naphthalene depleted), Aromatic 200, Aromatic 100, and HAN 857.

15           24. The composition of claim 17 wherein the non-cationic antimicrobial agent is present in an amount of from about 0.1 to about 5 wt%, more preferably from about 0.5 to about 5 wt%.

20           25. The composition of claim 17 wherein the water soluble organic solvent is present in an amount of from about 0.5 to about 10 wt%.

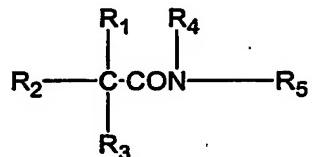
25           26. The composition of claim 17 wherein the anionic soap surfactant is present in an amount of from about 1 to about 20 wt%, more preferably from about 2 to about 15 wt%.

27. The composition of claim 17 wherein the hydrocarbon diluent is present in an amount of from about 0.1 to about 10 wt%, more preferably from about 0.5 to about 5 wt%.

30           28. The composition of claim 17 wherein the pine oil is present in an amount of from about 0.1 to about 15 wt%, more preferably from about 1 to about 10 wt%.

29. A hard surface cleaning concentrate composition comprising:
- a) from about 0.1 to about 5 wt% of a non-cationic antimicrobial agent;
  - b) from about 0.5 to about 10 wt% of a water soluble organic solvent;
  - c) from about 1 to about 20 wt% of an anionic soap surfactant;
  - d) from about 0.1 to about 10 wt% of an hydrocarbon diluent;
  - e) from about 0.1 to about 15 wt% of pine oil which is at least 60% terpene alcohols;
  - f) from about 0.1 to about 5 wt% of one or more insect repellants; and
  - g) the balance being water.
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30. A hard surface cleaning concentrate composition comprising:
- a) from about 0.5 to about 5 wt% of a non-cationic antimicrobial agent;
  - b) from about 0.5 to about 10 wt% of a water soluble organic solvent;
  - c) from about 2 to about 15 wt% of an anionic soap surfactant;
  - d) from about 0.5 to about 5 wt% of an hydrocarbon diluent;
  - e) from about 1 to about 10 wt% of pine oil which is at least 60% terpene alcohols;
  - f) from about 0.1 to about 5 wt% of one or more insect repellants; and
  - g) the balance being water.
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31. The cleaning concentrate of claims 17 to 30 wherein the one or more insect repellents is selected from essential oils selected from oils of anise, citrus, aniseed, roses, mint, camphor, lemon, orange, rosemary, wintergreen, thyme, lavender, cloves, hops, tea tree, citronella, wheat, barley, lemongrass, cedar leaf, cedarwood, cinnamon, fleagrass, geranium, sandalwood, violet, cranberry, eucalyptus, vervain, peppermint, gum benzoin, basil, fennel, fir, balsam, menthol, ocmea origanum, hydastis carradensis, berberidaceae daceae, ratanhiae, curcuma longa, Mentha arvensis (Cornmint), Mentha spicata (American Spearmint), Mentha cardica (Scotch Spearmint), (-)-Limonene, (+)-Limonene, (-)-Carvone, Linalool, Alpha and Beta -
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- 25
- 30

Terpineol, Fencholic acid, Borneol iso Borneol, Bornyl acetate and iso Bornyl acetate and related chemical components of the plant oils selected from anethol, catechol, camphene, pinocarvone, cedrol, thymol, eugenol, eucalyptol, ferulic acid, farnesol, hinokitiol, tropolone, limonene, menthol, methyl salicylate, carvacol, terpineol, 5 verbenone, berberine, ratanhiae extract, caryophellene oxide, citronellic acid, curcumin, nerolidol and geraniol; N,N-diethyl-m-toluamide, diethyl phthalate, dimethyl phthalate, dibutyl phthalate, 2-Hydroxyethyl-n-octyl sulfide, N-Octyl bicycloheptene dicarboximide, Hexahydrodibenzofuran carboxaldehyde, Di-n-propyl 10 isocinchomerate, 2-Ethyl-1,3-hexanediol, 2-(n-butyl)-2-ethyl-1,3-propanediol, Dibutyl succinate, Piperonyl butoxide, Pyrethrum, fragrances, n-alkylneoalkanamides having a formula of



wherein R<sub>1</sub>, R<sub>2</sub>, and R<sub>3</sub> are alkyl groups and the sum of the carbon atoms therein is 15 from 6 to 12, and wherein R<sub>4</sub> is either a hydrogen atom or an alkyl group having one or two carbon atoms and wherein R<sub>5</sub> is an alkyl group having one to three carbon atoms.